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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,693

04/07/2004

Doug Kreager

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8535

7590

11/18/2005

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EXAMINER

DEB, ANJAN K

ART UNIT

PAPER NUMBER

2858

DATE MAILED: 11/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/820,693

Applicant(s)

KREAGER ET AL.

Examiner

Anjan K. Deb

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-17, 23-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-14, 23 and 29-34 is/are rejected.
- 7) ☒ Claim(s) 15-17, 24-28, 35 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/28/2005.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 12-14, 23, 29-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Britton (US 3,904,959) in view of McDonough (US 5,945,835).

Re claim 12, Britton discloses (Fig. 2) connecting in series first coaxial cable (connected to terminal A of measuring instrument 36), second coaxial cable (cable connected to RF OUTPUT of source 10) to form a calibration configuration, sending a first radio frequency signal through calibration configuration and measuring a first loss (input A of test instrument 36) in the radio frequency signal (output of coupler 14 is shorted)(column 5 lines 1-5), placing a radio frequency probe 30 in a test fixture including device 16, sending a second radio frequency signal through the test configuration including device 16, measuring a second loss (input B of test instrument 36) in the radio frequency signal after the second radio frequency signal is sent through the test configuration (column 4 lines 40-44) and subtracting the first loss and the second loss to derive a fixture (device 16) loss (column 5 lines 5-22).

Britton does not expressly disclose an adaptor and that the first coaxial cable and adapter and second coaxial cable have the same impedance.

McDonough (US 5,945,835) clearly shows an adaptor (connector) 62 connected to coaxial cable 60 at one end and second end configured to mate 64 with radio frequency probe 10 (Fig. 1).

At the time the invention was made it would have been obvious for one of ordinary skill in the art to modify Britton by adding an adaptor disclosed by McDonough for connecting coaxial cable at one end and second end configured to mate with radio frequency probe, and the first coaxial cable, adapter and second coaxial cable to have the same impedance as required for impedance matching without which the test system would not function properly.

Re claim 13, Britton discloses contacting a device under test 16 with the radio frequency test probe in the test fixture (34,14)(coupler 14 and attenuator 34 broadly interpreted as part of a test fixture)(Fig. 2).

Re claims 14, 34 Britton did not expressly disclose any wireless components in the test configuration component and did not specifically disclose that the device under test is a wireless component. A person of ordinary skill in the art would find it obvious to modify Britton to test a wireless component since the intended use of the claimed invention (i.e. for testing a wireless component) did not result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. The prior art structure as taught by Britton is capable of performing the intended use of testing a wireless component. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re 01/0*, 136 USPQ 458, 459 (CCPA 1963).

Re claim 23, Britton discloses calibration configuration comprising first coaxial cable (connected to terminal A of measuring instrument 36) connected to radio frequency probe 28 and connecting a second coaxial cable (cable connected to RF OUTPUT of source 10) to radio frequency probe 28 (probe 28 is connected to second coaxial cable through a test fixture comprising attenuator 34 and coupler 14) and obtaining a first signal noise through the calibration configuration. The calibration configuration is broadly interpreted as the circuit configuration shown in Fig. 2 when it does not include device under test 16 (Fig. 2)(column 5 lines 9-11).

Britton does not expressly disclose the claimed adaptor connections but would have been obvious as an adaptor is required for connecting the first coaxial cable to radio frequency probe.

McDonough (US 5,945,835) clearly shows an adaptor (connector) 62 connected to coaxial cable 60 at one end and second end configured to mate 64 with radio frequency probe 10 (Fig. 1).

At the time the invention was made it would have been obvious for one of ordinary skill in the art to modify Britton by adding an adaptor disclosed by McDonough for connecting RF test measurement instrument to probe through coaxial cable.

Re claims 29, 31, 33 Britton discloses placing radio frequency probe 28 in a test fixture (34,14) to form a test configuration comprising device 16 inserted in said test fixture and obtaining a second loss (input B of test instrument 36) through said test configuration (column 4 lines 40-44)(Fig. 2).

Re claim 30, Britton discloses forming a calibration configuration including first coaxial cable (connected to terminal A of measuring instrument 36) connected to radio frequency probe 28 and connecting a second coaxial cable (cable connected to RF OUTPUT of source 10) to radio frequency probe 28 (probe 28 is connected to second coaxial cable through a test fixture comprising attenuator 34 and coupler 14) and obtaining a first signal noise through the calibration configuration. The calibration configuration is broadly interpreted as the circuit configuration shown in Fig. 2 when it does not include device under test 16 (Fig. 2)(column 5 lines 1-22), and forming a test configuration including said first coaxial cable, said second coaxial cable, and said radio frequency probe. The test configuration is broadly interpreted as the circuit configuration shown in Fig. 2 when device 16 is inserted in the circuit (Fig. 2)(column 5 lines 1-22),

Britton does not expressly disclose the claimed adaptor connections but would have been obvious as an adaptor is required for connecting the first coaxial cable to radio frequency probe.

McDonough (US 5,945,835) clearly shows an adaptor (connector) 62 connected to coaxial cable 60 at one end and second end configured to mate 64 with radio frequency probe 10 (column 4 lines 1-4)(Fig. 1).

At the time the invention was made it would have been obvious for one of ordinary skill in the art to modify Britton by adding an adaptor disclosed by McDonough for connecting RF test measurement instrument to probe through coaxial cable.

Re claim 32, Britton did not expressly disclose adapter includes a ground sleeve and a signal pin positioned inside and spaced apart from ground sleeve.

McDonough (US 5,945,835) discloses adaptor (connector) 62 connected to coaxial cable 60 at one end and second end configured to mate 64 with radio frequency probe 10 wherein a connector 64 serves to connect a center conductor of the cable 60 to the probe RF contact 18, and to connect a ground shield of the cable 60 to the probe body 12 including the body ground contact 24 (column 4 lines 1-20)(Fig. 1).

At the time of the invention it would have been obvious for one of ordinary skill in the art to modify Britton as modified by McDonough by including ground sleeve and signal pin spaced apart from ground sleeve in the adapter disclosed by McDonough as required for connecting center conductor of the cable 60 to the probe RF contact 18, and to connect a ground shield of the cable 60 to the probe body 12 including the body ground contact 24 (Fig. 1).

3. Claims 12, 23, 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Britton (US 3,904,959) in view of Frenkel (US 6,538,454 B1).

Re claim 12, Britton discloses (Fig. 2) connecting in series first coaxial cable (connected to terminal A of measuring instrument 36), second coaxial cable (cable connected to RF OUTPUT of source 10) to form a calibration configuration, sending a first radio frequency signal through calibration configuration and measuring a first loss (input A of test instrument 36) in the radio frequency signal (output of coupler 14 is shorted)(column 5 lines 1-5), placing a radio frequency probe 30 in a test fixture including device 16, sending a second radio frequency signal through the test configuration including device 16, measuring a second loss (input B of test

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instrument 36) in the radio frequency signal after the second radio frequency signal is sent through the test configuration (column 4 lines 40-44) and subtracting the first loss and the second loss to derive a fixture (device 16) loss (column 5 lines 5-22).

Britton does not expressly disclose an adaptor and that the first coaxial cable and adapter and second coaxial cable have the same impedance.

Frenkel discloses a test configuration comprising connecting an adaptor 70 to a first coaxial cable 80 and configured to mate with radio frequency probe 50 and connecting a second coaxial cable 52 to the radio frequency probe (Fig. 10). Frenkel further disclosed that adaptor, coaxial cables, and probe are impedance matched (column 7 lines 65,66) to minimize microwave reflections.

At the time the invention was made it would have been obvious for one of ordinary skill in the art to modify Britton by adding an adaptor disclosed by Frenkel for connecting coaxial cable at one end and second end configured to mate with radio frequency probe, and the first coaxial cable, adapter and second coaxial cable to have the same impedance as required for impedance matching to minimize microwave reflections.

Re claim 23, Britton discloses calibration configuration comprising first coaxial cable (connected to terminal A of measuring instrument 36) connected to radio frequency probe 28 and connecting a second coaxial cable (cable connected to RF OUTPUT of source 10) to radio frequency probe 28 (probe 28 is connected to second coaxial cable through a test fixture comprising attenuator 34 and coupler 14) and obtaining a first signal noise through the calibration configuration. The calibration configuration is broadly interpreted as the circuit

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configuration shown in Fig. 2 when it does not include device under test 16 (Fig. 2)(column 5 lines 9-11).

Britton does not expressly disclose the claimed adaptor connections but would have been obvious as an adaptor is required for connecting the first coaxial cable to radio frequency probe.

Frenkel discloses a test configuration comprising connecting an adaptor 70 to a first coaxial cable 80 and configured to mate with radio frequency probe 50 and connecting a second coaxial cable 52 to the radio frequency probe (Fig. 10).

At the time the invention was made it would have been obvious for one of ordinary skill in the art to modify Britton by adding an adaptor disclosed by Frenkel for connecting RF test measurement instrument to probe through coaxial cable for measuring signal loss.

Re claim 30, Britton discloses forming a calibration configuration including first coaxial cable (connected to terminal A of measuring instrument 36) connected to radio frequency probe 28 and connecting a second coaxial cable (cable connected to RF OUTPUT of source 10) to radio frequency probe 28 (probe 28 is connected to second coaxial cable through a test fixture comprising attenuator 34 and coupler 14) and obtaining a first signal noise through the calibration configuration. The calibration configuration is broadly interpreted as the circuit configuration shown in Fig. 2 when it does not include device under test 16 (Fig. 2)(column 5 lines 1-22), and forming a test configuration including said first coaxial cable, said second coaxial cable, and said radio frequency probe. The test configuration is broadly interpreted as the circuit configuration shown in Fig. 2 when device 16 is inserted in the circuit (Fig. 2)(column 5 lines 1-22),

Britton does not expressly disclose the claimed adaptor connections but would have been obvious as an adaptor is required for connecting the first coaxial cable to radio frequency probe.

Frenkel discloses a test configuration comprising connecting an adaptor 70 to a first coaxial cable 80 and configured to mate with radio frequency probe 50 and connecting a second coaxial cable 52 to the radio frequency probe (Fig. 10).

At the time the invention was made it would have been obvious for one of ordinary skill in the art to modify Britton by adding an adaptor disclosed by Frenkel for connecting RF test measurement instrument to probe through coaxial cable for measuring signal loss.

Allowable Subject Matter

- 4 . Claims 15-17, 24-28, 35, 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

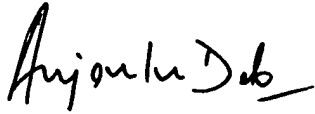
Response to Arguments

5. Applicant's arguments with respect to claims 12-14, 23, 29-34 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Anjan K. Deb whose telephone number is 571-272-2228. If

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attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached at 571-272-2399.



Anjan K. Deb

Primary Patent Examiner

Art Unit: 2858

11/17/05

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